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A method of cooling the bearings of a motor in a housing for a furnace assembly is disclosed comprising an aperture in the motor housing whereby air is brought into the housing and drawn around the motor via an impeller into the impeller housing thereby eliminating the need of a separately attached fan to cool the motor or motor bearings. The impeller pulls the air from the motor case into the impeller housing or blower via apertures in the back plate of the impeller housing and out an exhaust port situated in the blower housing.

The venting method provides a means of eliminating auxiliary motor fans used to cool the motor which results in the reduction of noise levels produced by the blower, a shortened blower housing height as well as a means of eliminating heat sources near the electronics in a vestibule portion of a furnace to which the blower is attached.

The combination of the vent slots and impeller back plate apertures allow for external air to be drawn into the blower over the motor, into the impeller portion of the blower housing and out an exhaust port situated in the blower housing.